Physical Interfaces & Carriers Japan TC Chapter

Meeting Summary and Minutes

Japan Fall Meetings 2025
Friday, September 26, 2025
Room 1 and Room 2, SEMI Japan office / OVTCCM (Hybrid)
10:00am – 1:00pm JST

TC Chapter Announcements

Next TC Chapter Meeting

9:00am – 12:00pm (JST), December 18, 2025 @ TFT Building and OVTCCM (Hybrid)

Table 1 Meeting Attendees

Italics indicate virtual participants

Co-Chairs: Tsuyoshi Nagashima (Miraial), Daisuke Sado (EAGLE INDUSTRY), Yasuhisa Ito (Murata Machinery)
SEMI Staff: Takeaki Hirabara

Company	*Last*	*First*	*Company*	*Last*	*First*
Acteon NEXT	Komatsu	Shoji	EAGLE INDUSTRY	Sado	Daisuke
Murata Machinery	Ito	Yasuhisa	TDK Corporation	Okabe	Tsutomu
DAIHEN	*Kishi*	*Daisuke*	*TDK Corporation*	*Kanashiro*	*Kiyoshi*
Tokyo Electron	*Mashiro*	*Supika*	*SCREEN Semiconductor Solutions*	*Nishimura*	*Takayuki*
Hirata Corporation	Kanazawa	Keiji	Shin-Etsu Polymer	Odashima	Satoshi
SINFONIA TECHNOLOGY	Matsukubo	Taisuke	DAIFUKU	Suzuki	Tomoko
KOKUSAI ELECTRIC	Matsuda	Mitsuhiro	DAIFUKU	Nishizawa	Naoyuki
Yodogawa Hu-Tech	*Okada*	*Hitoshi*	*DISCO*	*Gonsui*	*Shinobu*
SINFONIA TECHNOLOGY	*Taniyama*	*Yasushi*	*SINFONIA TECHNOLOGY*	*Suzuki*	*Atsushi*
TOKYO SEIMITSU	Taniguchi	Naomune	Shin-Etsu Polymer Taiwan	Paxson	Lu
Murata Machinery	Masami	Kuchiya	*Entegris*	*Matthew*	*Fuller*
ASE	Ping Feng	Yang	ASE	Mulder	Shen
Chung King Enterprise	*Jiechao*	*Yang*	*Chung King Enterprise*	*Claire*	*Chen*
Intel	*Kartik*	*Raman*	SEMI Japan	Akiko	Yoshida
Intel	*Stefan*	*Radloff*	*SEMI Japan*	*Nahoko*	*Koga*
Intel	*Danniel*	*Slinker*	SEMI Japan	Takeaki	Hirabara

Table 2 Leadership Changes

WG/TF/SC/TC Name	*Previous Leader*	*New Leader*
None		

Table 3 TC Chapter Structure Changes

Previous WG/TF/SC Name	*New WG/TF/SC Name or Status Change*
	310mm Square Panel FOUP Task Force

Table 4 Ballot Results

Document #	*Document Title*	*Committee Action*
7373	Line Item Revision to SEMI E182-0424 - Specification for Panel FOUP Loadport for Panel Level Packaging	**Failed**
7374	Revision to add a new Subordinate Standard: SPECIFICATION FOR PANEL FOUP LOAD PORT WITH GROUND BASED DELIVERY EXCLUSION VOLUME to SEMI E182-0424 SPECIFICATION FOR PANEL FOUP LOADPORT FOR PANEL LEVEL PACKAGING	**Passed**

#1 **Passed** ballots and line items will be submitted to the ISC Audit & Review Subcommittee for procedural review.

#2 **Failed** ballots and line items were returned to the originating task forces for re-work and re-balloting or abandoning.

Table 5 Ratification Ballot Results

Document #	*Document Title*	*ISC A&R Action*	*A&R Forms*
None			

Note 1: **Passed** Ratification ballots will be submitted to SEMI publication for final processing.

Note 2: **Failed** Ratification ballots were returned to the originating task forces for re-work and re-balloting or abandoning.

Table 6 Activities Approved by the GCS between meetings of the TC Chapter

#	*Type*	*SC/TF/WG*	*Details*
7373	SNARF	Panel Level Packaging (PLP) Panel FOUP TF	Line Item Revision to SEMI E182-0424 - Specification for Panel FOUP Loadport for Panel Level Packaging
7374	SNARF	Panel Level Packaging (PLP) Panel FOUP TF	Revision to add a new Subordinate Standard: SPECIFICATION FOR PANEL FOUP LOAD PORT WITH GROUND BASED DELIVERY EXCLUSION VOLUME to SEMI E182-0424 SPECIFICATION FOR PANEL FOUP LOADPORT FOR PANEL LEVEL PACKAGING
7375	SNARF	Next Gen Assembly / Test Material Handling TF	New Preliminary Standard: Specification for Large Tray Stack FOUP (LTSF)
7373	Ballot Cycle 6, 2025	Panel Level Packaging (PLP) Panel FOUP TF	Line Item Revision to SEMI E182-0424 - Specification for Panel FOUP Loadport for Panel Level Packaging

Table 6 Activities Approved by the GCS between meetings of the TC Chapter

#	*Type*	*SC/TF/WG*	*Details*
7374	Ballot Cycle 6, 2025	Panel Level Packaging (PLP) Panel FOUP TF	Revision to add a new Subordinate Standard: SPECIFICATION FOR PANEL FOUP LOAD PORT WITH GROUND BASED DELIVERY EXCLUSION VOLUME to SEMI E182-0424 SPECIFICATION FOR PANEL FOUP LOADPORT FOR PANEL LEVEL PACKAGING

Table 7 Preliminary Standard Result

Document #	*Document Title*	*ISC A&R Action*	*A&R Forms*
7375	New Preliminary Standard: Specification for Large Tray Stack FOUP (LTSF)	**Passed**	A&R_7375

Table 8 Authorized Activities

Listing of all revised or new SNARF(s) approved by the Originating TC Chapter.

#	*Type*	*SC/TF/WG*	*Details*
	SNARF	Panel Level Packaging (PLP) Panel FOUP TF	Line item revision to SEMI E181.1 — Specification for Panel FOUP for 510 to 515 mm Panel Size and 12 Slots, SEMI E181.2 — Specification for Panel FOUP for 510 to 515 mm Panel Size and 6 Slots, SEMI E181.3 — Specification for Panel FOUP for 600 to 600 mm Panel Size and 12 Slots and SEMI E181.4 — Specification for Panel FOUP for 600 to 600 mm Panel Size and 6 Slots
	SNARF	310mm Square Panel FOUP TF	New Standard: Specification for 310mm Square Panel FOUP

#1 SNARFs and TFOFs are available for review on the SEMI Web site at:
http://downloads.semi.org/web/wstdsbal.nsf/TFOFSNARF

Table 9 Authorized Ballots

#	*When*	*TF*	*Details*
7373A	Cycle 9, 2025	Panel Level Packaging Panel FOUP TF	Line Item Revision to SEMI E182-0424 - Specification for Panel FOUP Loadport for Panel Level Packaging
	Cycle 9, 2025	Panel Level Packaging (PLP) Panel FOUP TF	Line item revision to SEMI E181.1 — Specification for Panel FOUP for 510 to 515 mm Panel Size and 12 Slots, SEMI E181.2 — Specification for Panel FOUP for 510 to 515 mm Panel Size and 6 Slots, SEMI E181.3 — Specification for Panel FOUP for 600 to 600 mm Panel Size and 12 Slots and SEMI E181.4 — Specification for Panel FOUP for 600 to 600 mm Panel Size and 6 Slots

Table 10 SNARF(s) Granted a One-Year Extension

#	*TF*	*Title*	*Expiration Date*
None			

Table 11 SNARF(s) Cancelled

#	TF	Title
7172	Next Gen Assembly / Test Material Handling TF	New Standard: Specification for Next Gen Assembly / Test Carrier
7333	Panel Level Packaging (PLP) Panel FOUP TF	Revision to add a new Subordinate Standard, SPECIFICATION FOR PANEL FOUP LOADPORT GROUND BASED VEHICLE DELIVERY EXCLUSION VOLUME to SEMI E182 SPECIFICATION FOR PANEL FOUP LOADPORT FOR PANEL LEVEL PACKAGING

Table 12 Standard(s) to receive Inactive Status

Standard Designation	*Title*
None	

Table 13 New Action Items

Item #	*Assigned to*	*Details*
PIC_20250926_1	SEMI Staff	Distribution the two SNARFs to TC members. (NGAT TF)
PIC_20250926_2	SEMI Staff	Preliminary Standards: GCS Approval
PIC_20250926_3	Shoji Komatsu	Submission updated TFOF and SNARF about 310mm square Panel FOUP TF

Table 14 Previous Meeting Action Items

Item #	*Assigned to*	*Details*
PIC_20250418-1	SEMI Staff	Ask Minutes format update for the part of leader change to HQ → Done
PIC_20250418-2	SEMI Staff	Doc#6896: Contact HQ to get the details (what we do for future) → Done

1 Welcome, Reminders, and Introductions

Daisuke Sado called the meeting to order at 10:00. The meeting reminders on antitrust issues, intellectual property issues and holding meetings with international attendance were reviewed. Attendees introduced themselves.

Attachment: 1. Required_Meeting_Element Dec 2024_JPupdated

2 Review of Previous Meeting Minutes

The TC Chapter reviewed the minutes of the previous meeting.

Motion:	Approve the minutes as written
By / 2nd:	Shoji Komatsu (Acteon NEXT LLC) / Mitsuhiro Matsuda (KOKUSAI ELECTRIC CORPORATION)
Discussion:	None
Vote:	18-Y 0-N Voting Result: Pass - 100.00%. Voting Rule: Majority

Attachment: 2. 20250418 Japan PIC Committee Minutes

3 Liaison Reports

3.1 *Physical Interfaces & Carriers North America TC Chapter*

-- Takeaki Hirabara (SEMI Staff) reported for the 3.1 Physical Interfaces & Carriers *North America* TC Chapter. Of note:

- Last Meeting: Wednesday, June 4, 2025 / NA Summer Meetings at SEMI HQ in Milpitas, CA
- Next Meeting: Wednesday, October 8, 2025 / SEMICON West at Phoenix Convention Center in Phoenix, AZ

Attachment: 3. NA PIC Liaison Report June2025 v1

3.2 *JRSC*

-- Takeaki Hirabara (SEMI Staff) reported for the JRSC. Of note:

- RSC Membership Updates & Approvals
- SEMI Standards Awards regulations and Selection Committee 2025
- Planning Meeting 2025 which was held in August

Attachment: 4. JRSC_Liaison Report

3.3 *SEMI Staff Report*

-- Takeaki Hirabara (SEMI Staff) gave the SEMI Staff Report. Of note:

- Introduced of 2025 calendar of SEMICON events.
- Shared the SEMICON West 2025 information which will be held in Phoenix, such as the event outline, SEMI Global Standards Summit, and SEMI Standards meeting schedule.
- Announcement of the details of the SEMICON Japan 2025 including the SEMI Standards meetings.

Attachment: 5. Staff Report_August 2025_R1

4 Ballot Review

NOTE 1: TC Chapter adjudication on ballots reviewed is detailed in the Audits & Review (A&R) Subcommittee Forms for procedural review. The A&R forms are available as attachments to these minutes. The attachment number for each balloted document is provided under each ballot review section below.

4.1 Document # 7373, Revision to SEMI E182-0424 - SPECIFICATION FOR PANEL FOUP LOADPORT FOR PANEL LEVEL PACKAGING

4.1.1 Line Item 1: Add panel size type and load port interface type to the ordering information in Section 6. →Fail

4.2 Document # 7374, Revision to add a new Subordinate Standard: SPECIFICATION FOR PANEL FOUP LOAD PORT WITH GROUND BASED DELIVERY EXCLUSION VOLUME to SEMI E182-0424 SPECIFICATION FOR PANEL FOUP LOADPORT FOR PANEL LEVEL PACKAGING →Passed as balloted

Attachment: 6. AR&R_7374

5 Preliminary Standard Result

5.1 Document # 7375, Specification for Large Tray Stack FOUP (LTSF) → Passed *Proceeded with the GCS approval.

5.1.1 GCS Approval → Passed

Attachment: 7. A&R_7375

6 Subcommittee and Task Force Reports

6.1 *Global PIC Standards Maintenance TF*

No reportable matters.

6.2 *Japan Electron Microscopy Workflow liaison TF*

Takeaki Hirabara (SEMI Staff) reported for the Japan Electron Microscopy Workflow liaison Task Force on behalf of the leader. This report contained information on the attached file.

Attachment: 8. SEMI EMWF TF -PIC Update September 26 2025

6.3 *Panel Level Packaging Panel FOUP TF*

Shoji Komatsu (Acteon NEXT LLC) reported the Panel Level Packaging FOUP TF jointly with the Next Gen Assembly / Test Material Handling TF report. Refer the Next Gen Assembly / Test Material Handling TF report part.

6.4 *Next Gen Assembly / Test Material Handling TF*

Shoji Komatsu (Acteon NEXT LLC) reported the Panel Level Packaging FOUP TF jointly with the Next Gen Assembly / Test Material Handling TF report. Refer the Next Gen Assembly / Test Material Handling TF report part. This report contained information on the attached file.

Action Item: Distribution two SNARFs to TC members

Attachment: 9. NGAT_Panel FOUP TF report_20250917

6.5 [Liaison: 3D Packaging & Integration JA TCC] Panel Level Packaging Glass Carrier TF

No reportable matters.

6.6 [Liaison: 3D Packaging & Integration NA TCC] Panel Level Packaging Panel TF

No reportable matters.

7 Old Business

7.1 *Project Period Review*

None

7.2 *5 Year Review*

None

8 New Business

8.1 *SNARF Cancellation*

8.1.1 Document #7172: New Standard: Specification for Next Gen Assembly / Test Carrier

Motion: Cancel SNARF: Document #7172 - New Standard: Specification for Next Gen Assembly / Test Carrier
By / 2nd: Shoji Komatsu (Acteon NEXT LLC) / Stefan Radloff (Intel)

Discussion: None

Vote: 14-Y 0-N Voting Result: Pass - 100.00%. Voting Rule: Majority

8.1.2 Document # 7333: Revision to add a new Subordinate Standard, SPECIFICATION FOR PANEL FOUP LOADPORT GROUND BASED VEHICLE DELIVERY EXCLUSION VOLUME to SEMI E182 SPECIFICATION FOR PANEL FOUP LOADPORT FOR PANEL LEVEL PACKAGING'

Motion: Cancel SNARF: Document #7172 - New Standard: Specification for Next Gen Assembly / Test Carrier

By / 2nd: Shoji Komatsu (Acteon NEXT LLC) / Stefan Radloff (Intel)

Discussion: None

Vote: 16-Y 0-N Voting Result: Pass - 100.00%. Voting Rule: Majority

8.2 *TFOF*

8.2.1 310mm Square Panel FOUP Task Force

Motion: TFOF: 310mm Square Panel FOUP Task Force

By / 2nd: Shoji Komatsu (Acteon NEXT LLC) / Mitsuhiro Matsuda (KOKUSAI ELECTRIC CORPORATION)

Discussion:

- Update of Jeffery san's name part
- Unify the TF name: "310mm square panel" FOUP Task Force

Vote: 14-Y 0-N Voting Result: Pass - 100.00%. Voting Rule: Majority

8.3 *SNARF Approval*

8.3.1 Line item revision to SEMI E181.1 — Specification for Panel FOUP for 510 to 515 mm Panel Size and 12 Slots, SEMI E181.2 — Specification for Panel FOUP for 510 to 515 mm Panel Size and 6 Slots, SEMI E181.3 — Specification for Panel FOUP for 600 to 600 mm Panel Size and 12 Slots and SEMI E181.4 — Specification for Panel FOUP for 600 to 600 mm Panel Size and 6 Slots

Motion: Approve the SNARF: Line item revision to SEMI E181.1 — Specification for Panel FOUP for 510 to 515 mm Panel Size and 12 Slots, SEMI E181.2 — Specification for Panel FOUP for 510 to 515 mm Panel Size and 6 Slots, SEMI E181.3 — Specification for Panel FOUP for 600 to 600 mm Panel Size and 12 Slots and SEMI E181.4 — Specification for Panel FOUP for 600 to 600 mm Panel Size and 6 Slots

By / 2nd: Shoji Komatsu (Acteon NEXT LLC) / Mitsuhiro Matsuda (KOKUSAI ELECTRIC CORPORATION)

Discussion: None

Vote: 18-Y 0-N Voting Result: Pass - 100.00%. Voting Rule: Majority

8.3.2 New Standard: Specification for Square 310mm Panel FOUP

Motion: New Standard: Specification for Square 310mm Panel FOUP

By / 2nd: Shoji Komatsu (Acteon NEXT LLC) / Ping Feng Yang (ASE Group)

Discussion:

- Liaison Part: Only TC Chapter name (Deleting TF name)
- Update of Jeffery san's name part

Vote: 18-Y 0-N Voting Result: Pass - 100.00%. Voting Rule: Majority

8.4 *Letter Ballot Approval*

8.4.1 Line item revision to SEMI E181.1 — Specification for Panel FOUP for 510 to 515 mm Panel Size and 12 Slots, SEMI E181.2 — Specification for Panel FOUP for 510 to 515 mm Panel Size and 6 Slots, SEMI E181.3 — Specification for Panel FOUP for 600 to 600 mm Panel Size and 12 Slots and SEMI E181.4 — Specification for Panel FOUP for 600 to 600 mm Panel Size and 6 Slots

Motion: Authorize the Document for Letter Ballot Cycle 9, 2025: Line item revision to SEMI E181.1 — Specification for Panel FOUP for 510 to 515 mm Panel Size and 12 Slots, SEMI E181.2 — Specification for Panel FOUP for 510

	to 515 mm Panel Size and 6 Slots, SEMI E181.3 — Specification for Panel FOUP for 600 to 600 mm Panel Size and 12 Slots and SEMI E181.4 — Specification for Panel FOUP for 600 to 600 mm Panel Size and 6 Slots
By / 2nd:	Shoji Komatsu (Acteon NEXT LLC) / Mitsuhiro Matsuda (KOKUSAI ELECTRIC CORPORATION)
Discussion:	None
Vote:	16-Y 0-N Voting Result: Pass - 100.00%. Voting Rule: Majority

8.4.2 Doc.7373A : Line-Item Revision to SEMI E182-0424 - Specification for Panel FOUP Loadport for Panel Level Packaging

Motion:	Authorize the Document for Letter Ballot Cycle 9, 2025: Doc.7373A Line-Item Revision to SEMI E182-0424 - Specification for Panel FOUP Loadport for Panel Level Packaging
By / 2nd:	Shoji Komatsu (Acteon NEXT LLC) / Stefan Radloff (Intel)
Discussion:	None
Vote:	16-Y 0-N Voting Result: Pass - 100.00%. Voting Rule: Majority

9 Next Meeting and Adjournment

The next meeting is scheduled at 9:00am – 12:00pm on December 18, 2025 at TFT building, conjunction with SEMI CON Japan 2025. See http://www.semi.org/standards-events for the current list of events.

Adjournment: 12:40pm.

Respectfully submitted by:

Takeaki Hirabara

Standards & EHS

SEMI Japan

Email: thirabara@semi.org

Minutes tentatively approved by:

Tsuyoshi Nagashima (Miraial)	N/A
Daisuke Sado (EAGLE INDUSTRY)	October 2, 2025
Yasuhisa Ito (Murata Machinery)	October 2, 2025

Table 15 Index of Available Attachments[#1]

Title	*Title*
1. Required_Meeting_Element Dec 2024_JPupdated	2. 20250418 Japan PIC Committee Minutes
3. NA PIC Liaison Report June2025 v1	4. JRSC_Liaison Report
5. Staff Report_August 2025_R1	6. AR&R_7374
7. AR&R_7375	8. SEMI EMWF TF -PIC Update September 26 2025
9. NGAT_Panel FOUP TF report_20250917	

#1 Due to file size and delivery issues, attachments must be downloaded separately. A .zip file containing all attachments for these minutes is available at www.semi.org. For additional information or to obtain individual attachments, please contact Takeaki Hirabara at the contact information above.